

H-1296

Abstract of the Disclosure

A method for analyzing blood enables one to isolate, detect, enumerate and confirm under magnification the presence or absence of target cancer cells and/or hematologic progenitor cells which are known to circulate in blood. The analysis is performed in a sample of centrifuged anticoagulated whole blood. The analysis involves both morphometric and epitopic examination of the blood sample while the blood sample is disposed in a centrifuged blood sampling tube. The epitopic analysis of the presence or absence of cancer cells relies on the detection of epitopes which are known to present only on cancer cells; and the epitopic analysis of the presence or absence of hematologic progenitor cells relies on the detection of epitopes which are known to present only on hematologic progenitor cells. The targeted epitopes on the target cell types are epitopes which are also known to be absent on normal circulating blood cells; and the target cancer cell epitopes are epitopes which are known to be absent on target hematologic progenitor cells. Fluorophors with distinct emissions are coupled with antibodies which are directed against the targeted epitopes. The morphometric analysis is performed by staining the cells in the blood sample with an intracellular stain such as acridine orange which highlights the intracellular cell structure. Both the morphometric and epitopic analyses are preferably performed at or near the platelet layer of the expanded buffy coat in the centrifuged blood sample. The morphometric analysis and/or the epitopic analysis may be performed under magnification both visually and/or photometrically.

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